

FIG. 1

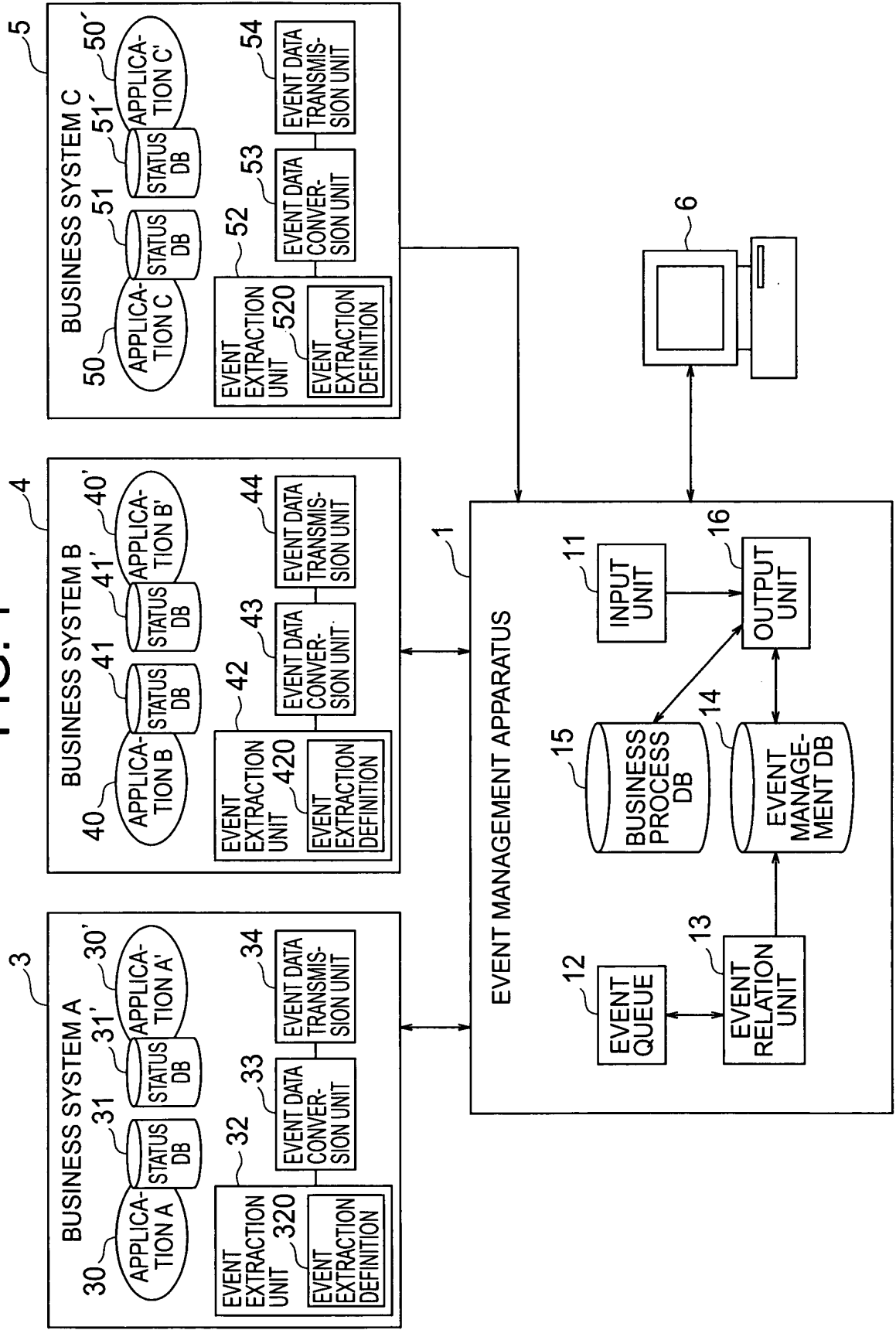
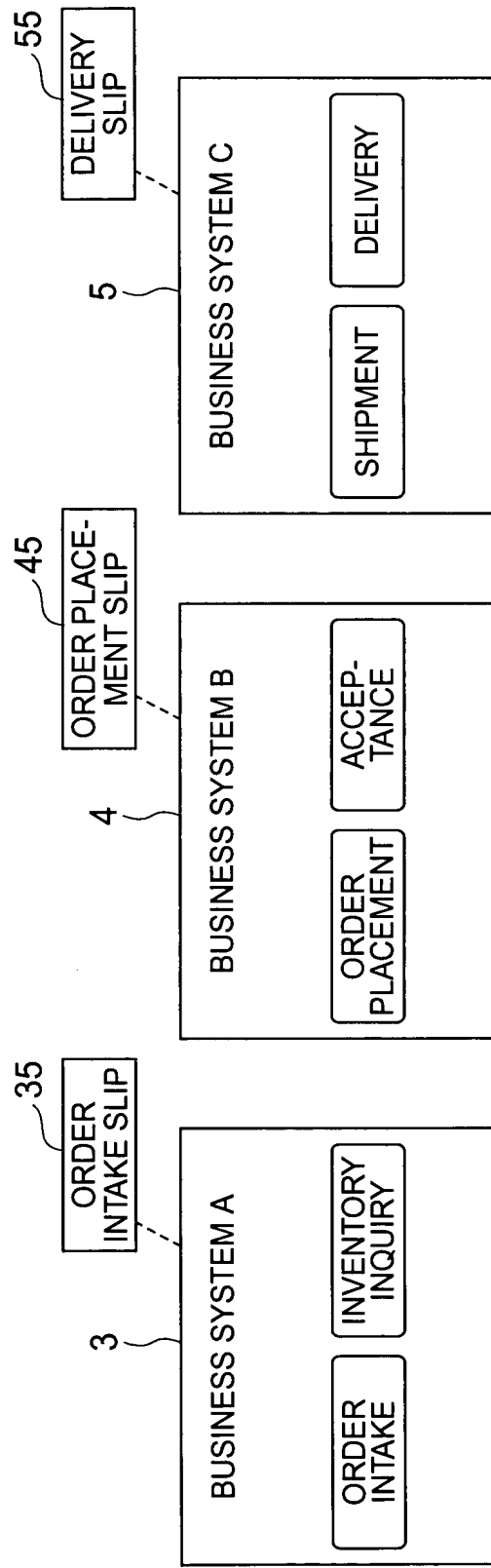
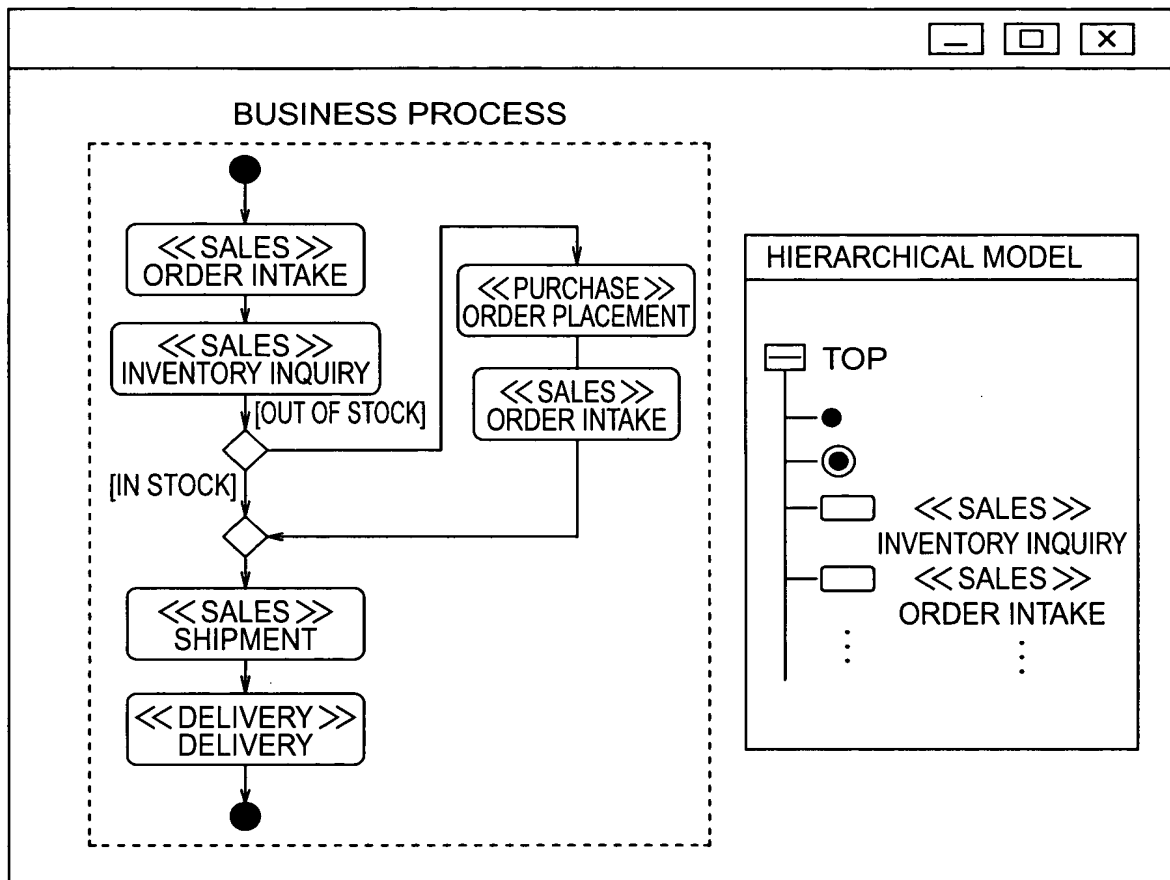


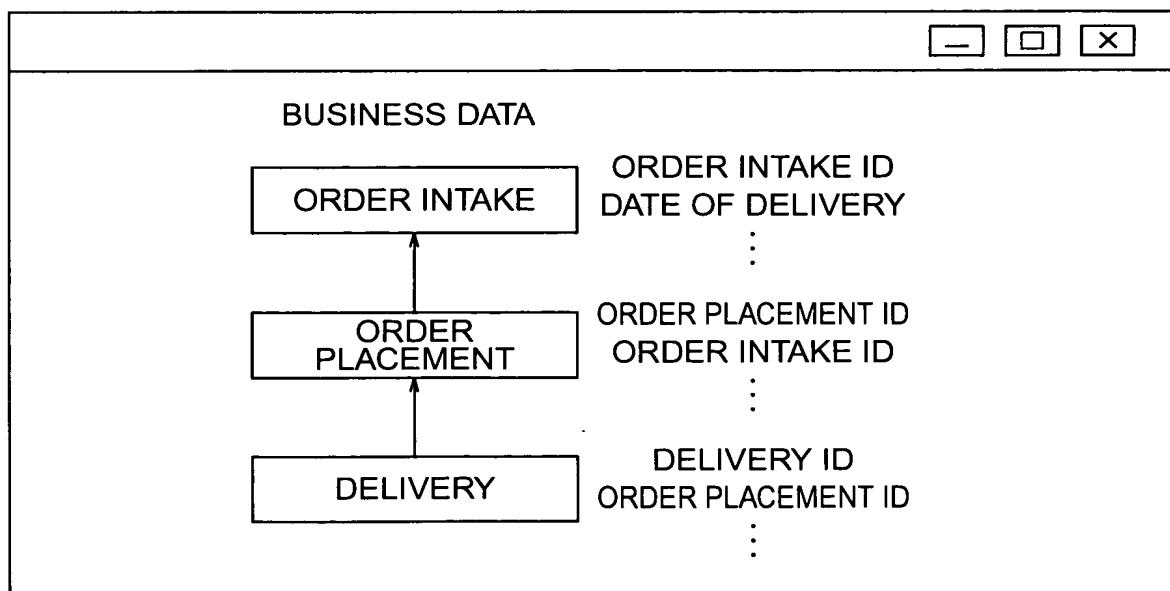
FIG. 2



# FIG. 3



# FIG. 4



## FIG. 5A

### BUSINESS PROCESS

ID	ACTIVITY
p1	ORDER INTAKE
p2	INVENTORY INQUIRY
p3	ORDER PLACEMENT
p4	ACCEPTANCE
p5	SHIPMENT
p6	DELIVERY

## FIG. 5B

### BUSINESS DATA

ID	BUSINESS DATA NAME
d1	ORDER INTAKE
d2	ORDER PLACEMENT
d3	DELIVERY

# FIG. 6A

## DATA ITEMS

ID	NAME	TYPE	BUSINESS DATA
v1	ORDER INTAKE ID	KEY	d1
v2	DATE OF DELIVERY	DATE	d1
v3	AMOUNT OF ORDERS RECEIVED	NUMERICAL VALUE	d1
v4	ORDER PLACEMENT ID	KEY	d2
v5	ORDER INTAKE ID	KEY	d2
v6	VENDOR	CHARACTER STRING	d2
v7	DELIVERY ID	KEY	d3
v8	ORDER PLACEMENT ID	KEY	d3
v9	DELIVERY DATE	DATE	d3

# FIG. 6B

## TRANSITION

ID	INPUT/ OUTPUT	EFFECT	ACTIVITY	BUSINESS DATA
t1	OUTPUT	C	p1	d1
t2	INPUT	R	p2	d1
t3	OUTPUT	C	p3	d2
t4	INPUT	U	p4	d2
t5	OUTPUT	C	p5	d3
t6	INPUT	U	p6	d3

# FIG. 7A

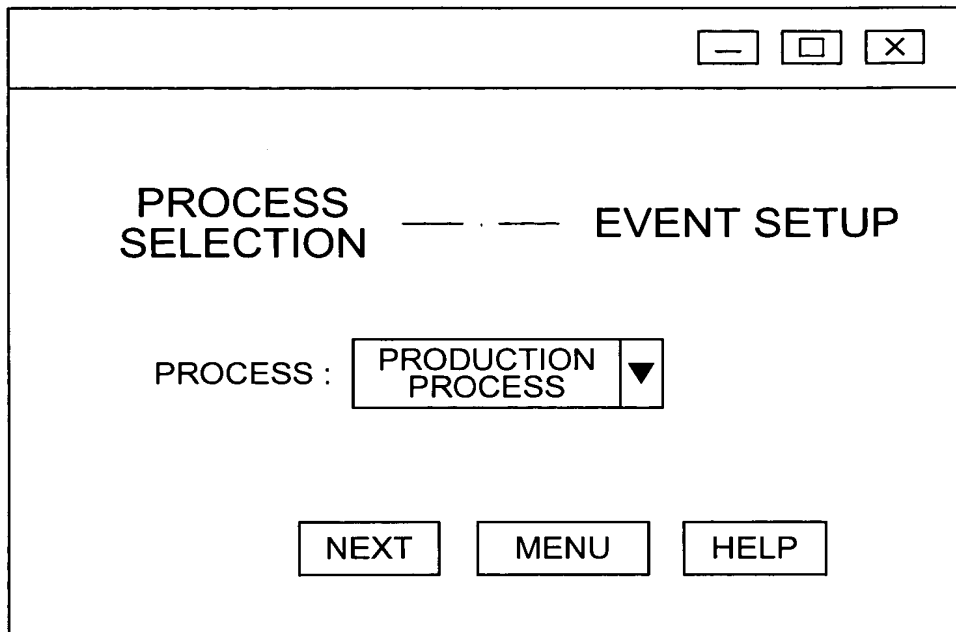


FIG. 7A is a screenshot of a software window titled "PROCESS SELECTION" and "EVENT SETUP". The window has a standard title bar with minimize, maximize, and close buttons. The main content area displays the text "PROCESS SELECTION" and "EVENT SETUP" separated by a horizontal line. Below this, the text "PROCESS:" is followed by a dropdown menu showing "PRODUCTION PROCESS" with a downward arrow. At the bottom, there are three buttons: "NEXT", "MENU", and "HELP".

PROCESS SELECTION — — EVENT SETUP

PROCESS : PRODUCTION PROCESS ▼

NEXT MENU HELP

# FIG. 7B

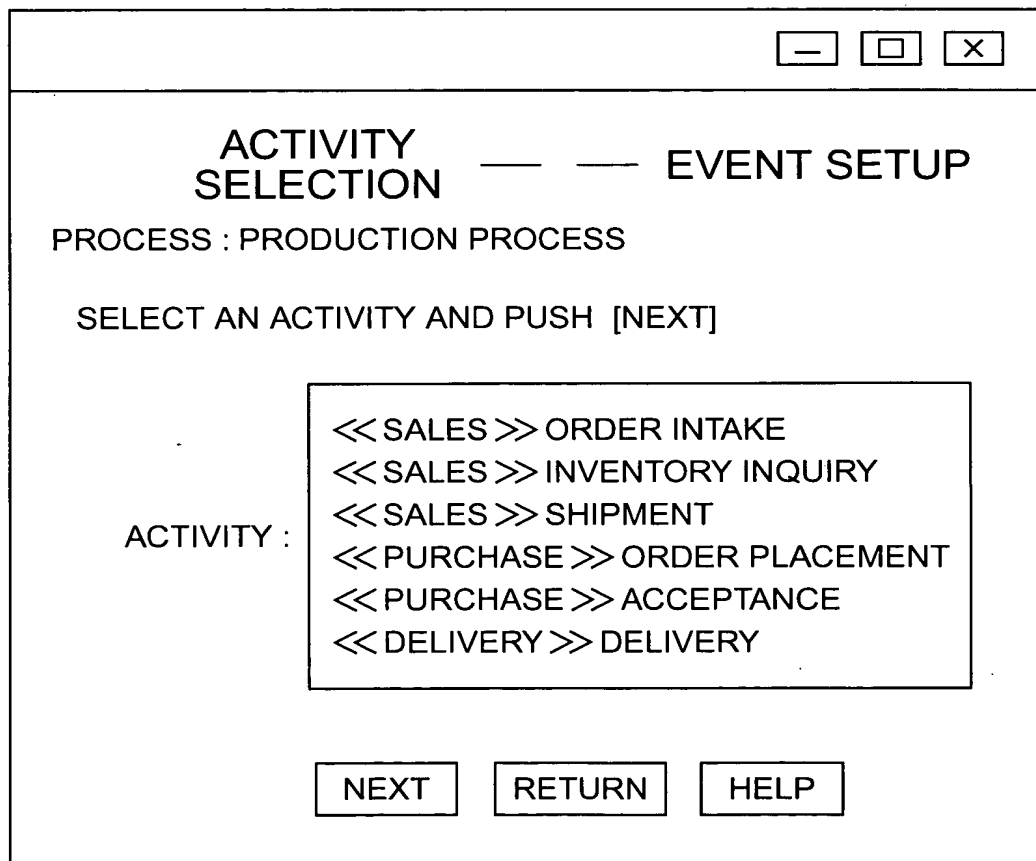


FIG. 7B is a screenshot of a software window titled "ACTIVITY SELECTION" and "EVENT SETUP". The window has a standard title bar with minimize, maximize, and close buttons. The main content area displays the text "ACTIVITY SELECTION" and "EVENT SETUP" separated by a horizontal line. Below this, the text "PROCESS : PRODUCTION PROCESS" is displayed. The instruction "SELECT AN ACTIVITY AND PUSH [NEXT]" is shown. A list of activities is displayed in a box, each preceded by a double less-than sign: "<< SALES >> ORDER INTAKE", "<< SALES >> INVENTORY INQUIRY", "<< SALES >> SHIPMENT", "<< PURCHASE >> ORDER PLACEMENT", "<< PURCHASE >> ACCEPTANCE", and "<< DELIVERY >> DELIVERY". At the bottom, there are three buttons: "NEXT", "RETURN", and "HELP".

ACTIVITY SELECTION — — EVENT SETUP

PROCESS : PRODUCTION PROCESS

SELECT AN ACTIVITY AND PUSH [NEXT]

ACTIVITY : << SALES >> ORDER INTAKE  
<< SALES >> INVENTORY INQUIRY  
<< SALES >> SHIPMENT  
<< PURCHASE >> ORDER PLACEMENT  
<< PURCHASE >> ACCEPTANCE  
<< DELIVERY >> DELIVERY

NEXT RETURN HELP

# FIG. 8A

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**SYSTEM SELECTION — — EVENT SETUP**

PROCESS : PRODUCTION PROCESS

ACTIVITY : << SALES >> ORDER INTAKE

SELECT ACTIVITY [ << SALES >> ORDER INTAKE ]

BUSINESS SYSTEM : BUSINESS SYSTEM A ▼

NEXT
RETURN
HELP

# FIG. 8B

— □ ×

**SETUP CORRESPONDING TO DATA — — EVENT SETUP**

PROCESS : PRODUCTION PROCESS

ACTIVITY : << SALES >> ORDER INTAKE

BUSINESS SYSTEM : BUSINESS SYSTEM A

SET THE DATA ITEM IN A SYSTEM CORRESPONDING TO THE DATA ITEM OF AN ACTIVITY

ACTIVITY DATA ITEM		INTRA-SYSTEM DATA ITEM	
ORDER INTAKE SLIP	⇒	aaaa	▼
REQUESTED DELIVERY DATE	⇒	bbbb	▼
AMOUNT OF ORDERS RECEIVED	⇒	cccc	▼
⋮	⋮	⋮	

SETUP
RETURN
HELP

# FIG. 9

## EVENT EXTRACTION DEFINITION

320

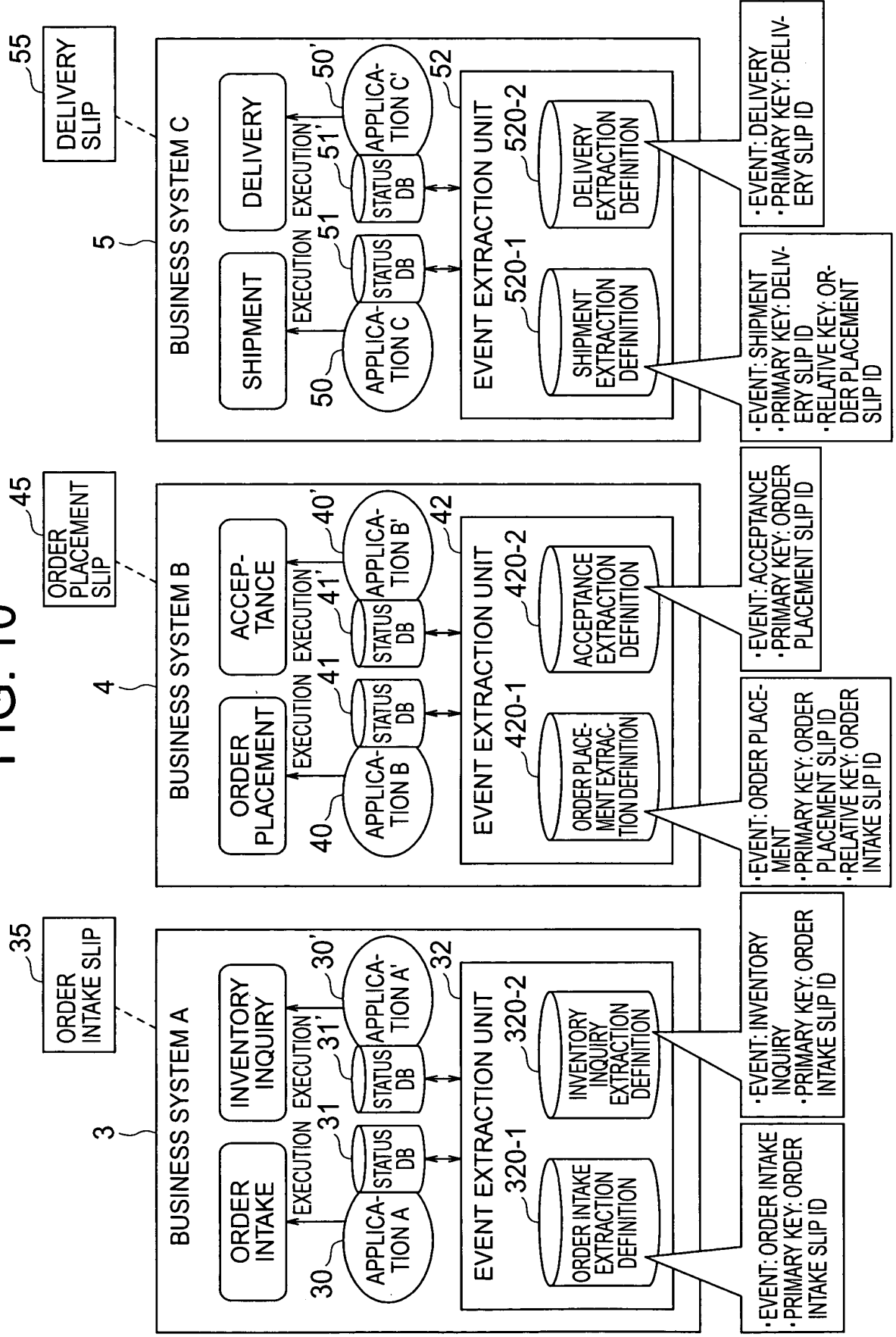
```

<?xml version="1.0" encoding="Shift_JIS"?>
<extractDefinition>
  <UMLmodel name="sample1">
    <system name="myR3" type="R/3">
      <location name="userexit_jutyuu_enter" activityName="ORDER INTAKE" modelOutput="yes"> <!--ACTIVITY START-->
        <startTime /> <!-- tempTable,ldateTime USE THE DATETIME FIELD OF THE TEMPTABLE -->
        <primaryKey name="ORDER INTAKE" place="AA-BB" />
      </location>
      <location name="userexit_jutyuu_exit" activityName="ORDER INTAKE" modelOutput="no"> <!--ACTIVITY END-->
        <finishTime />
        <primaryKey name="ORDER INTAKE" place="AA-BB" />
        <property name="AMOUNT OF ORDERS RECEIVED" place="AB-CD" />
        <property name="REQUESTED DELIVERY DATE" place="XX-YY" />
      </location>
      <temporaryTable> <!-- for JMS publisher -->
        <name>tempTable</name> <!-- default: "tempTable" -->
        <jdbc user="ana" password="ana" url="jdbc:oracle:thin:@localhost:1521:HESTER"
          driver="oracle.jdbc.driver.OracleDriver" />
      </temporaryTable>
    </system>
  </UMLmodel>
</extractDefinition>

```



# FIG. 10



## FIG. 11A

### ORDER INTAKE EVENT DATA

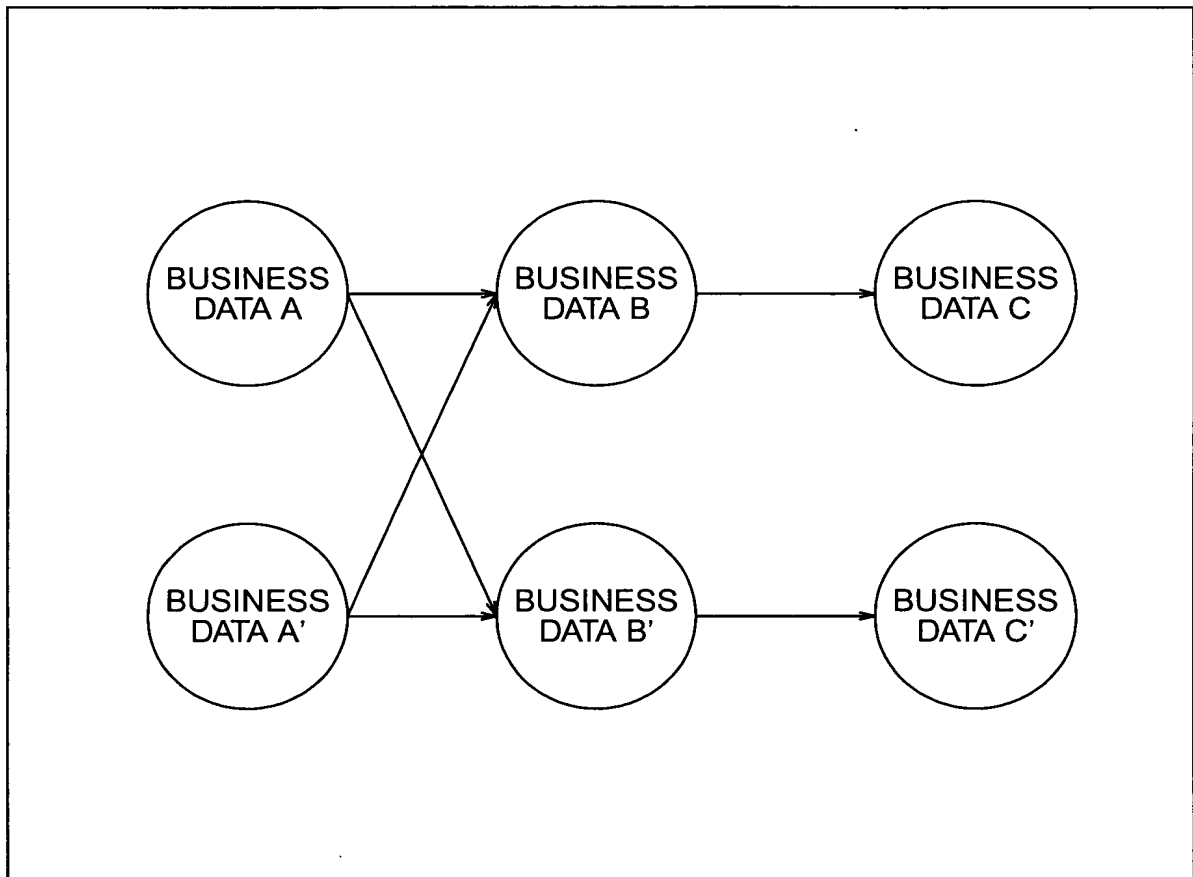
```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER INTAKE</bpm:eventName>
    <bpm:startTime>20030605T103500</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER INTAKE SLIP">o001</bpm:primaryKey>
  <bpm:property name="AMOUNT OF ORDERS RECEIVED">1000</bpm:property>
  <bpm:property name="REQUESTED DELIVERY DATE">2003/6/20</bpm:property>
</bpm:event>
```

## FIG. 11B

### ORDER PLACEMENT EVENT DATA

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030605T103500</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:property name="PRODUCTION NUMBER">12345</bpm:property>
  <bpm:property name="QUANTITY">100</bpm:property>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:event>
```

FIG. 12



# FIG. 13

## SVG FILE FOR FLOW EXPRESSION

```
<?xml version="1.0" encoding="UTF-8"?>
<svg xmlns:bpm="urn:fujitsu-bpm" id="bpm" width="1333" height="1000">
<defs>
<marker id="arrowhead" viewBox="0 0 10 10" refX="10" refY="5" markerUnits="strokeWidth" markerWidth="4"
markerHeight="3" orient="auto">
<path d="M 0 0 L 10 5 L 0 10 z" />
</marker>
</defs>
<g>
<circle bpm:id="z+wPK9HWsk6anJ9hz5R7zg" cx="143" cy="51" r="10" style="fill:#6FC498" stroke="#666666" stroke-width="2" />
<text bpm:id="z+wPK9HWsk6anJ9hz5R7zg" bpm:text="1" x="168" y="53"></text>
</g>
<g>
<rect bpm:id="ORDER INTAKE" x="91" y="104" width="100" height="100" style="fill:#CDCDCD" stroke="none" />
<text bpm:id="ORDER INTAKE" x="141" y="132" text-anchor="middle">ORDER INTAKE</text>
<text bpm:id="ORDER INTAKE" bpm:text="0" x="141" y="144" text-anchor="middle"></text>
<text bpm:id="ORDER INTAKE" bpm:text="1" x="193" y="147"></text>
<text bpm:id="ORDER INTAKE" bpm:text="2" x="193" y="126"></text>
<text bpm:id="ORDER INTAKE" bpm:text="3" x="193" y="106"></text>
<rect bpm:id="ORDER INTAKE" x="91" y="104" width="100" height="16" style="fill:#808285" stroke="none" />
<text bpm:id="ORDER INTAKE" x="141" y="116" fill="white" text-anchor="middle">&lt;&lt;SALES&gt;&gt;</text>
</g>
</svg>
```

FORM IN WHICH AN IDENTIFICATION  
ID IS EMBEDDED IN VECTOR DATA

# FIG. 14

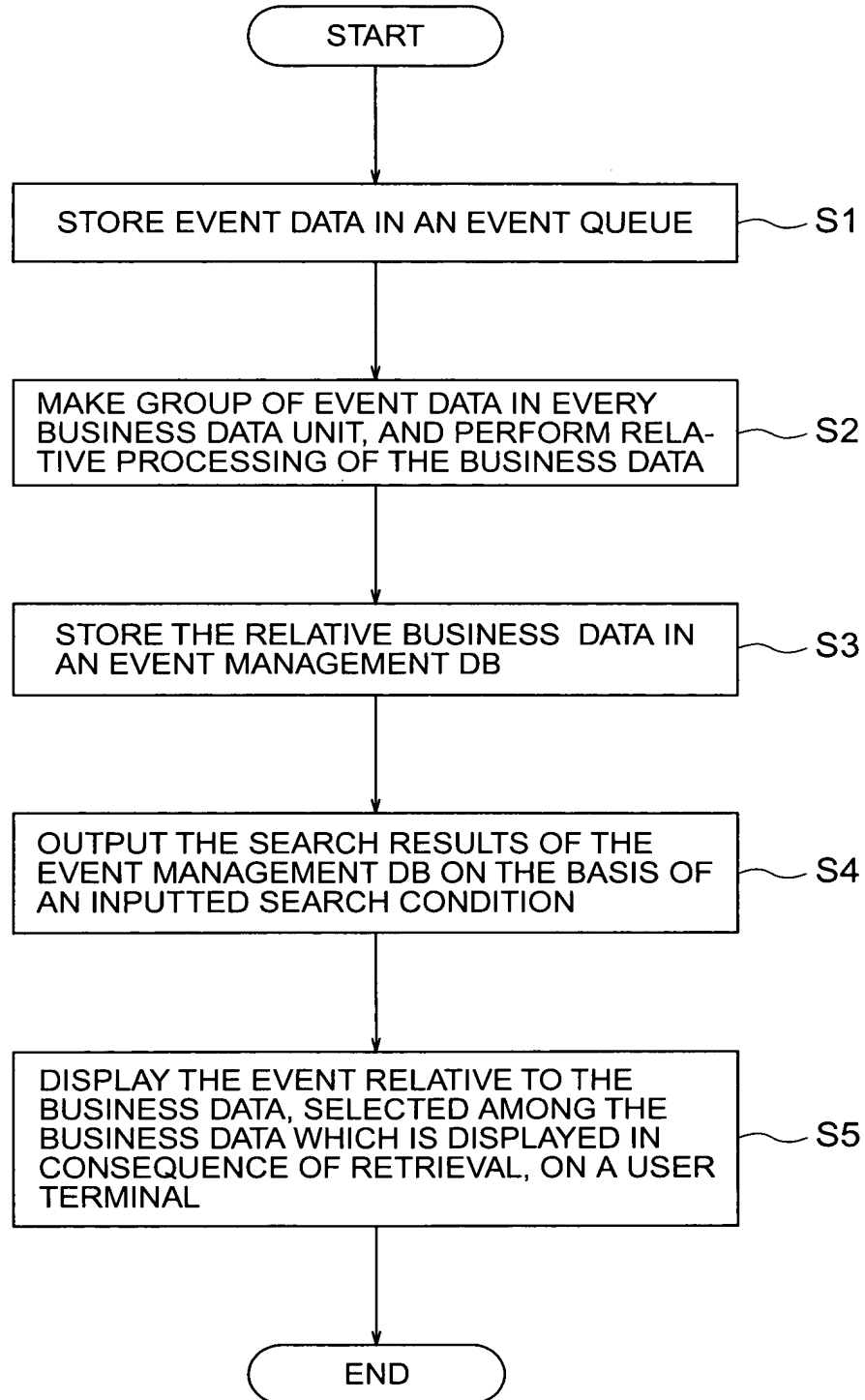
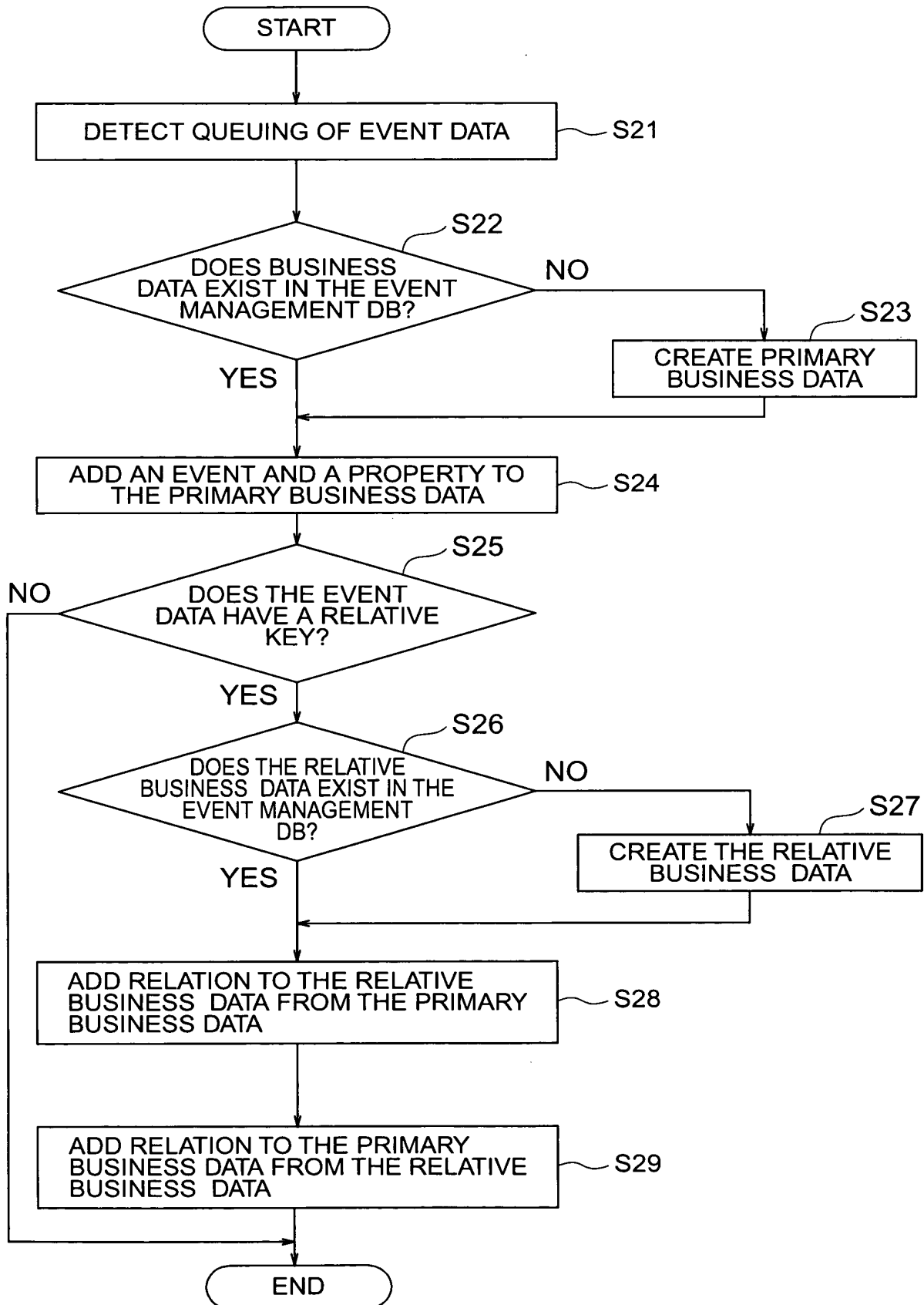


FIG. 15



## FIG. 16A

### EVENT DATA: ORDER PLACEMENT

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030827T1000</bpm:startTime>
  </bpm:eventData>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:event>
```

## FIG. 16B

### PRIMARY BUSINESS DATA: ORDER PLACEMENT SLIP

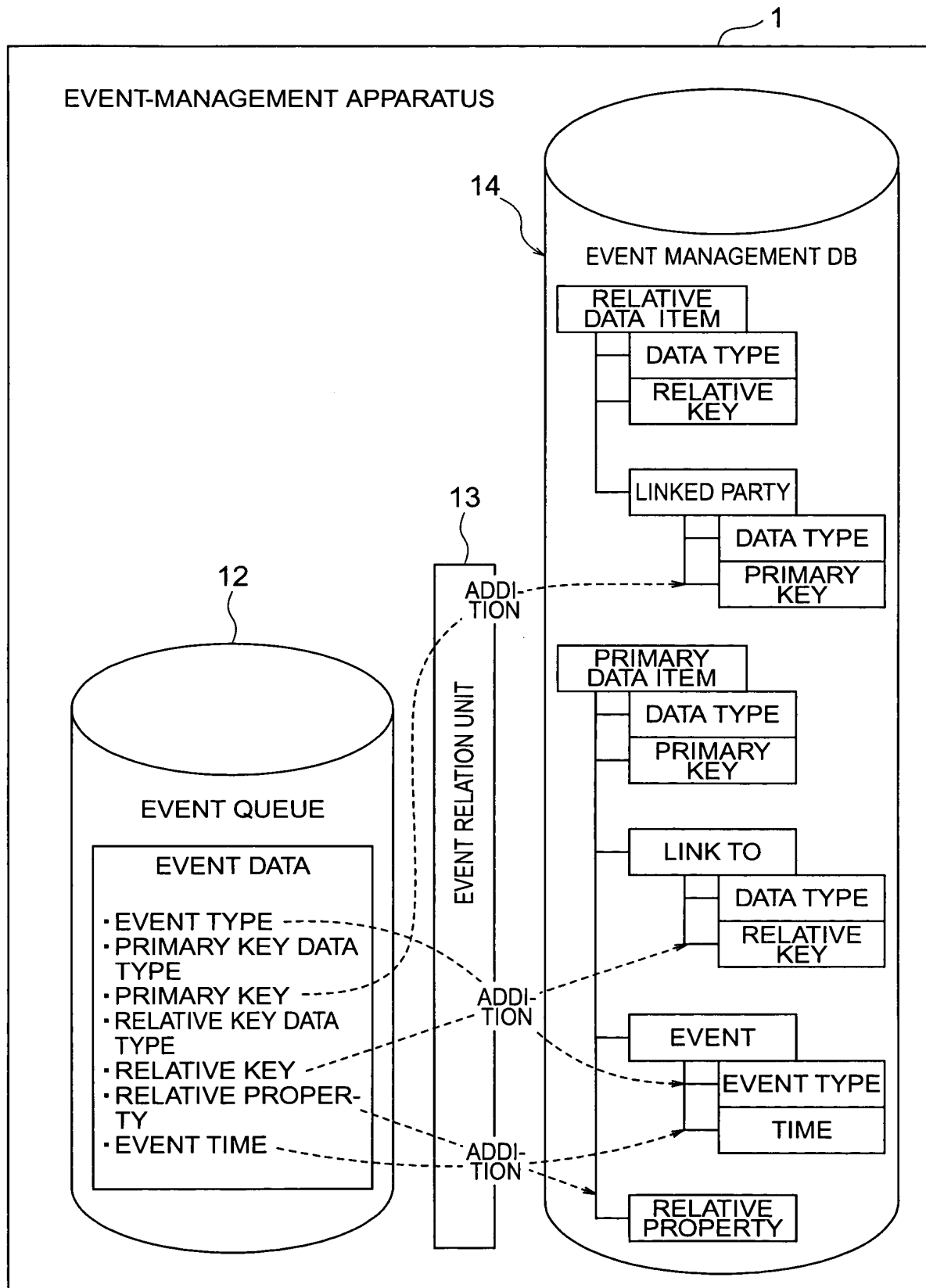
```
<bpm:businessData xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:primaryKey type="ORDER PLACEMENT SLIP">p101</bpm:primaryKey>
  <bpm:relativeKey type="ORDER INTAKE SLIP">o001</bpm:relativeKey>
  <bpm:eventData>
    <bpm:eventName>ORDER PLACEMENT</bpm:eventName>
    <bpm:startTime>20030827T1000</bpm:startTime>
  </bpm:eventData>
  <bpm:property name="UNIT PRICE">1000</bpm:property>
</bpm:businessData>
```

## FIG. 16C

### RELATIVE BUSINESS DATA: ORDER INTAKE SLIP

```
<bpm:businessData xmlns:bpm="urn:fj-bpm-event">
  <bpm:modelName>PRODUCT PROCESS</bpm:modelName>
  <bpm:primaryKey type="ORDER INTAKE SLIP">o001</bpm:primaryKey>
  <bpm:relativeKey type="ORDER PLACEMENT SLIP">p101</bpm:relativeKey>
</bpm:businessData>
```

# FIG. 17





# FIG. 18

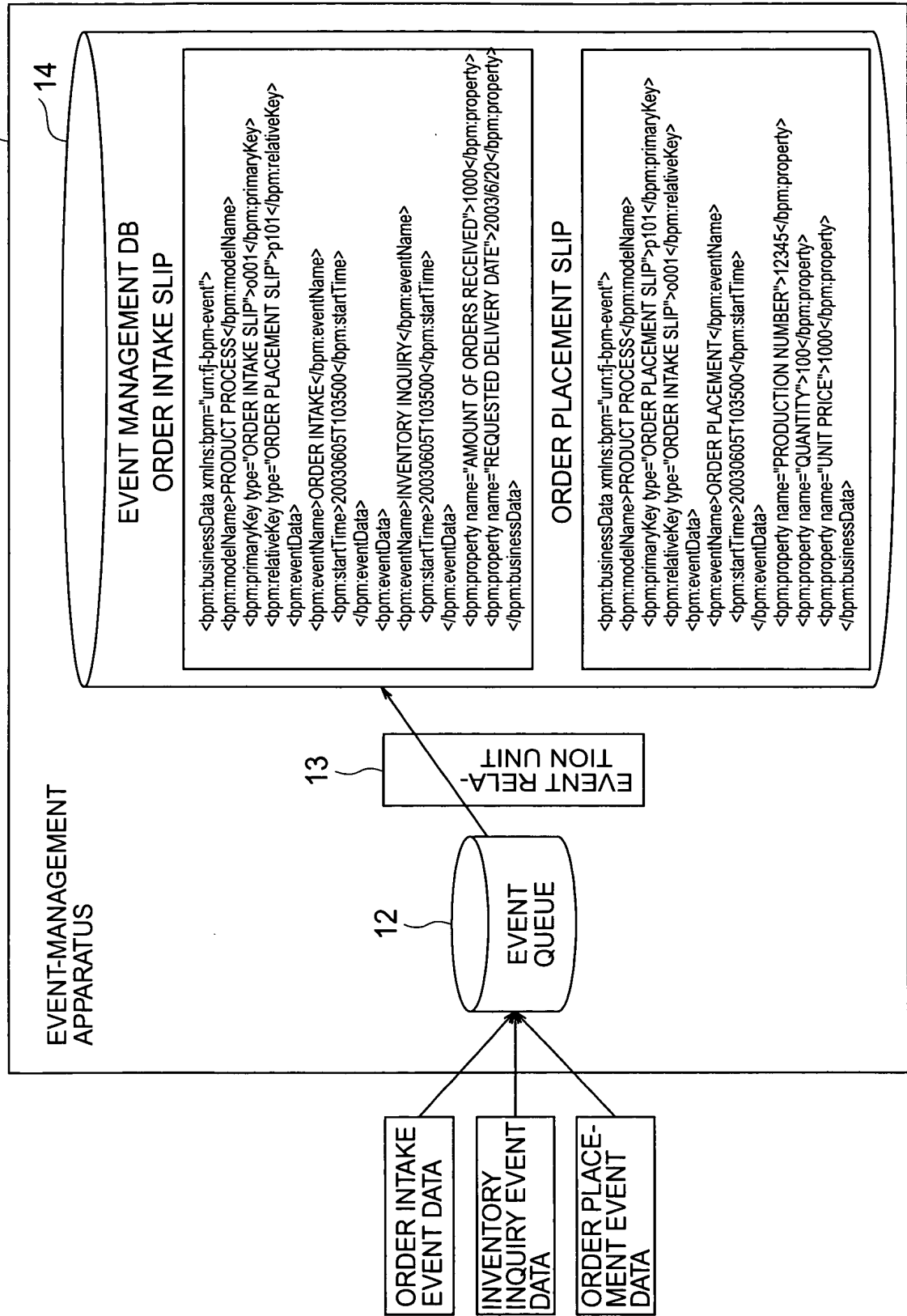


FIG. 19A

EVENT DATA A

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
  <bpm:eventName>ORDER ENTRY</bpm:eventName>
  <bpm:startTime>20030827T1100</bpm:startTime>
</bpm:eventData>
  <bpm:propertyName>"PRODUCT">abc</bpm:property>
  <bpm:propertyName>"QUANTITY">10</bpm:property>
</bpm:event>
```

EVENT DATA B

```
<bpm:event xmlns:bpm="urn:fj-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
  <bpm:eventName>ORDER ENTRY</bpm:eventName>
  <bpm:finishTime>20030827T1200</bpm:finishTime>
</bpm:eventData>
</bpm:event>
```

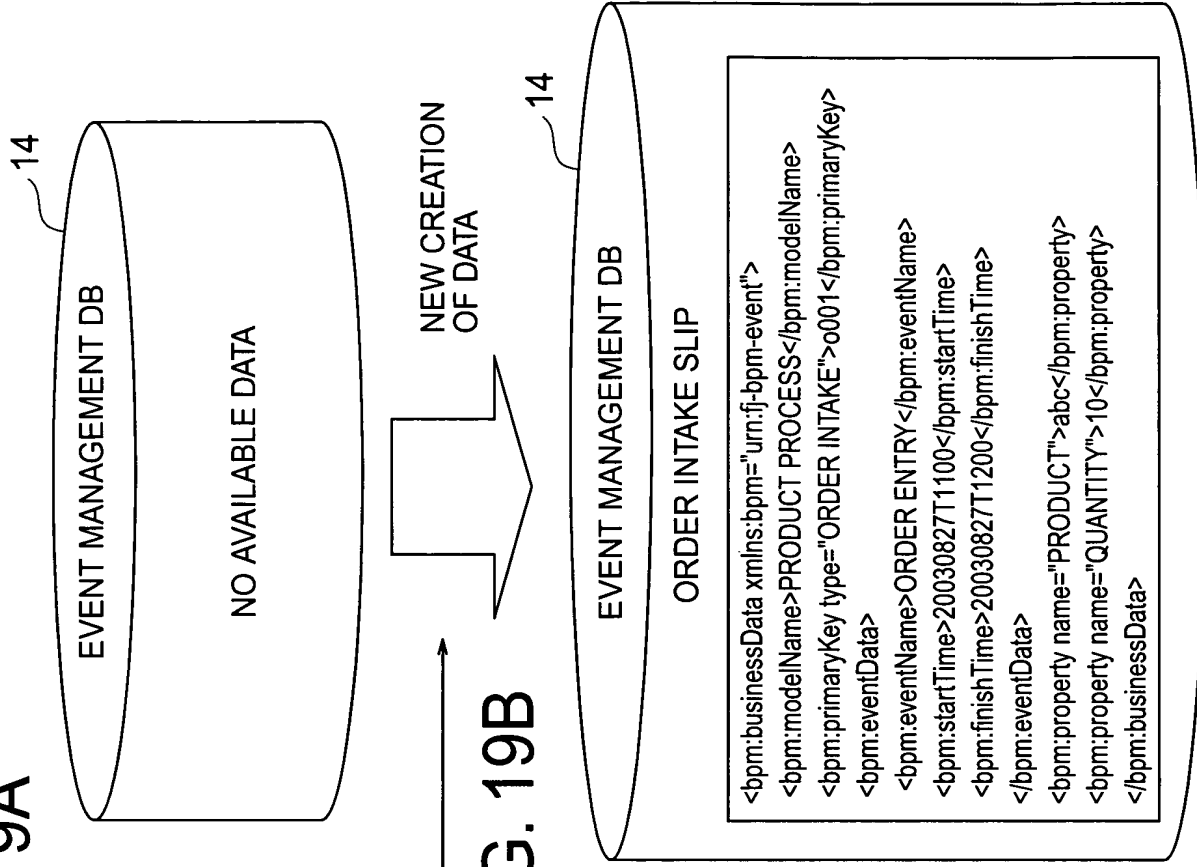


FIG. 19B

```
<bpm:businessData xmlns:bpm="urn:fj-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
  <bpm:eventName>ORDER ENTRY</bpm:eventName>
  <bpm:startTime>20030827T1100</bpm:startTime>
  <bpm:finishTime>20030827T1200</bpm:finishTime>
</bpm:eventData>
  <bpm:propertyName>"PRODUCT">abc</bpm:property>
  <bpm:propertyName>"QUANTITY">10</bpm:property>
</bpm:businessData>
```

FIG. 20A

EVENT DATA C

```
<bpm:event xmlns:bpm="urn:rf-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
<bpm:eventName>INVENTORY INQUIRY</bpm:eventName>
<bpm:startTime>20030827T1300</bpm:startTime>
</bpm:eventData>
</bpm:event>
```

EVENT DATA D

```
<bpm:event xmlns:bpm="urn:rf-bpm-event">
<bpm:modelName>PRODUCT PROCESS</bpm:modelName>
<bpm:primaryKey type="ORDER INTAKE">o001</bpm:primaryKey>
<bpm:eventData>
<bpm:eventName>INVENTORY INQUIRY</bpm:eventName>
<bpm:finishTime>20030827T1400</bpm:finishTime>
</bpm:eventData>
</bpm:event>
```

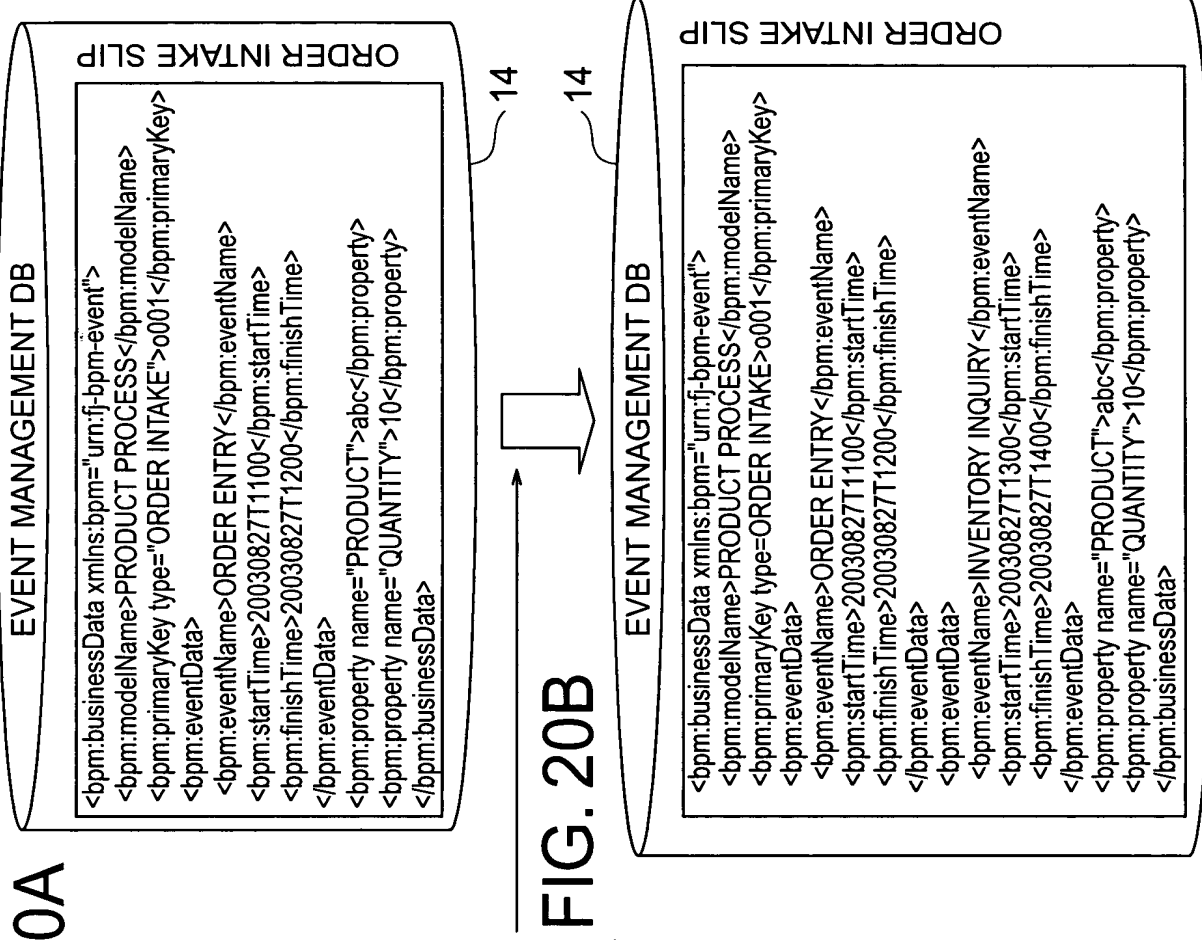


FIG. 21A

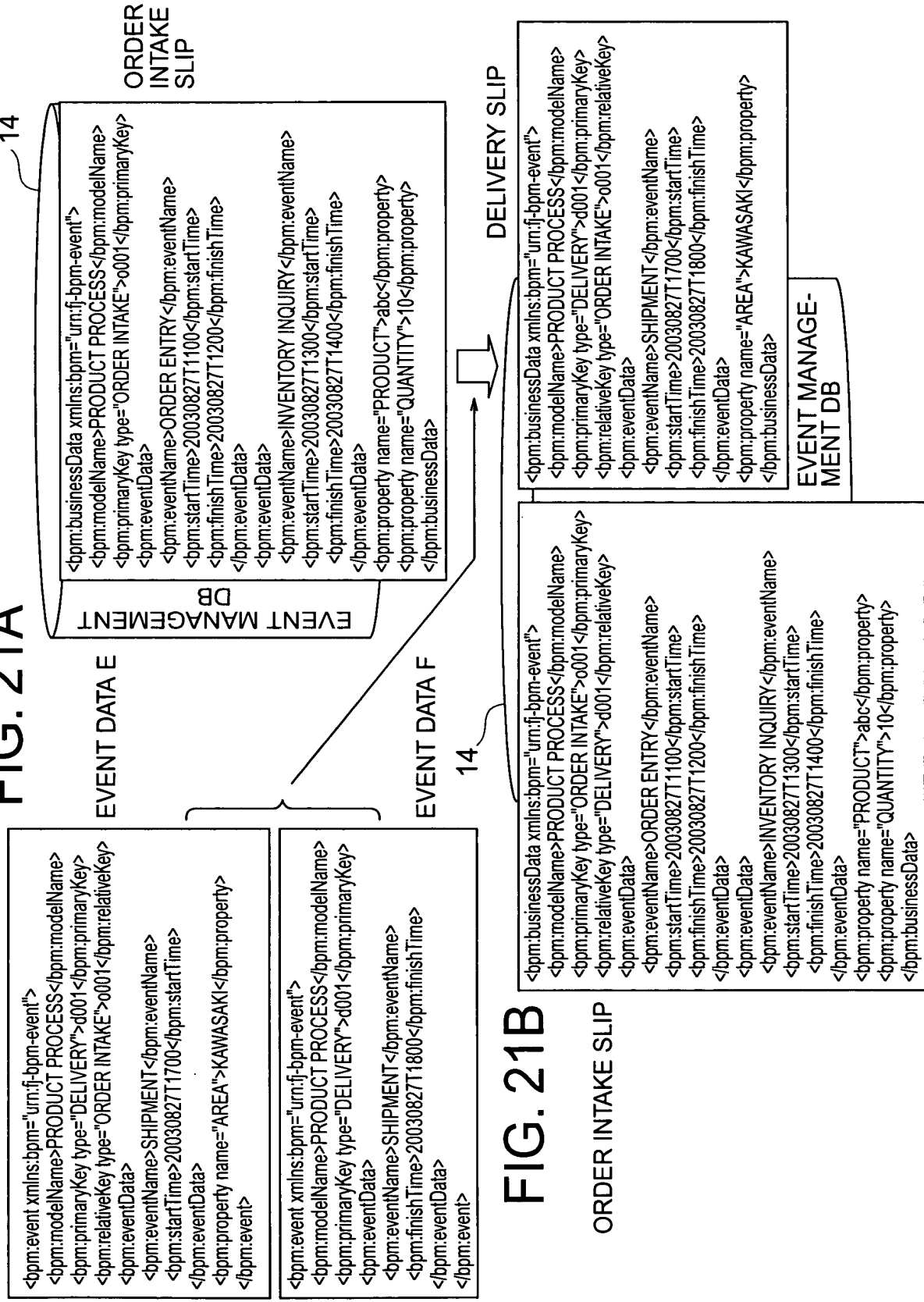
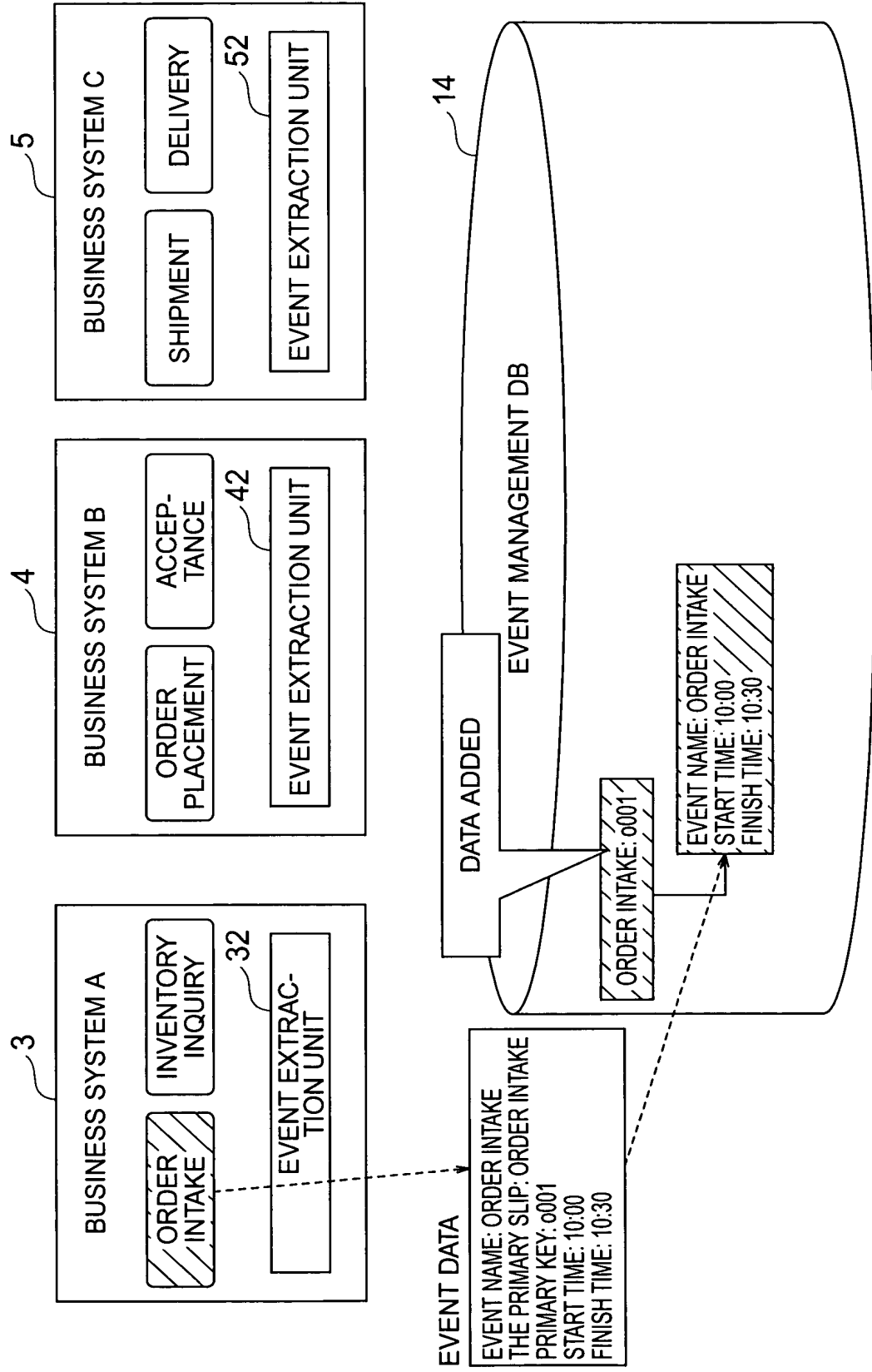


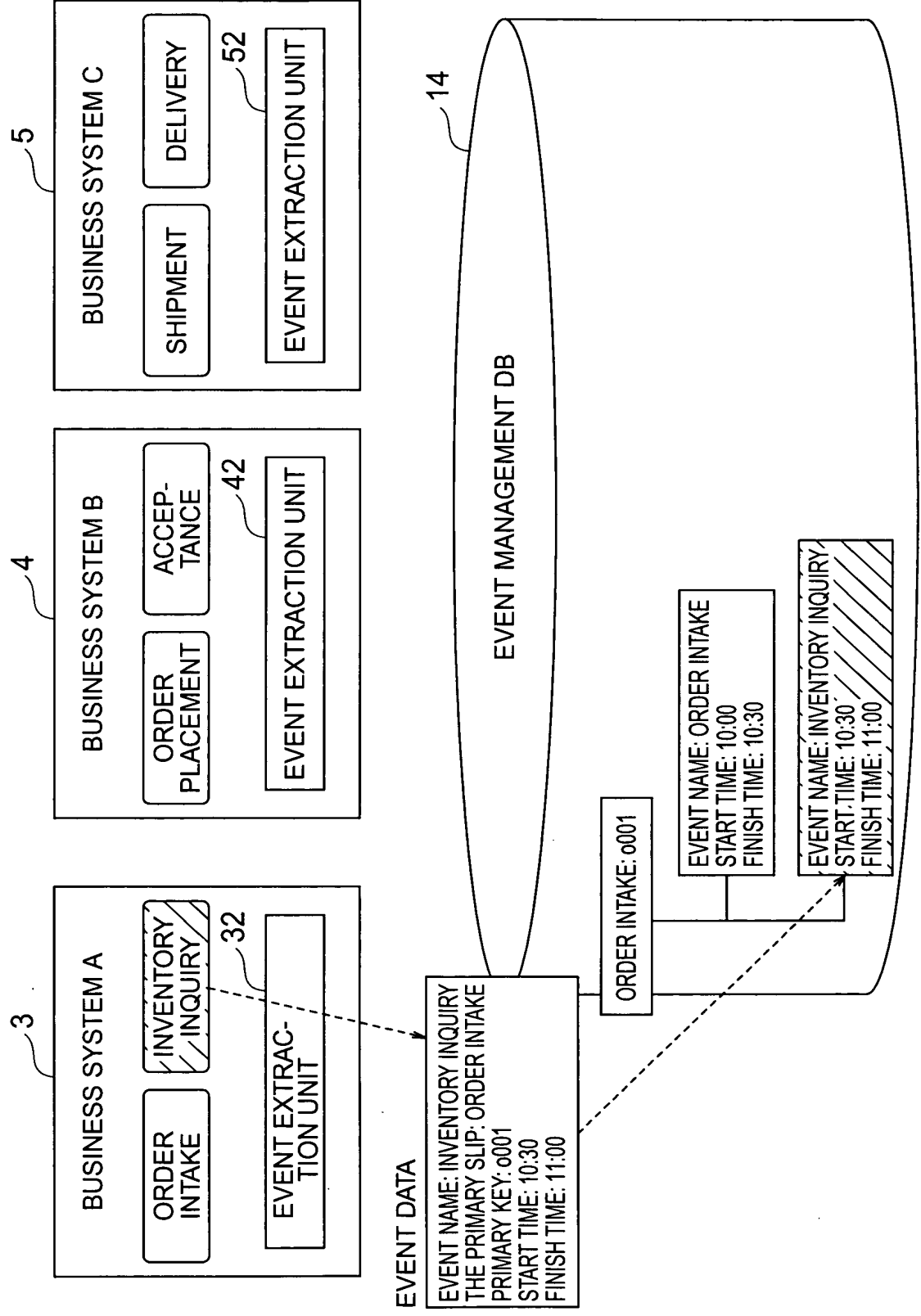
FIG. 21B

ORDER INTAKE SLIP

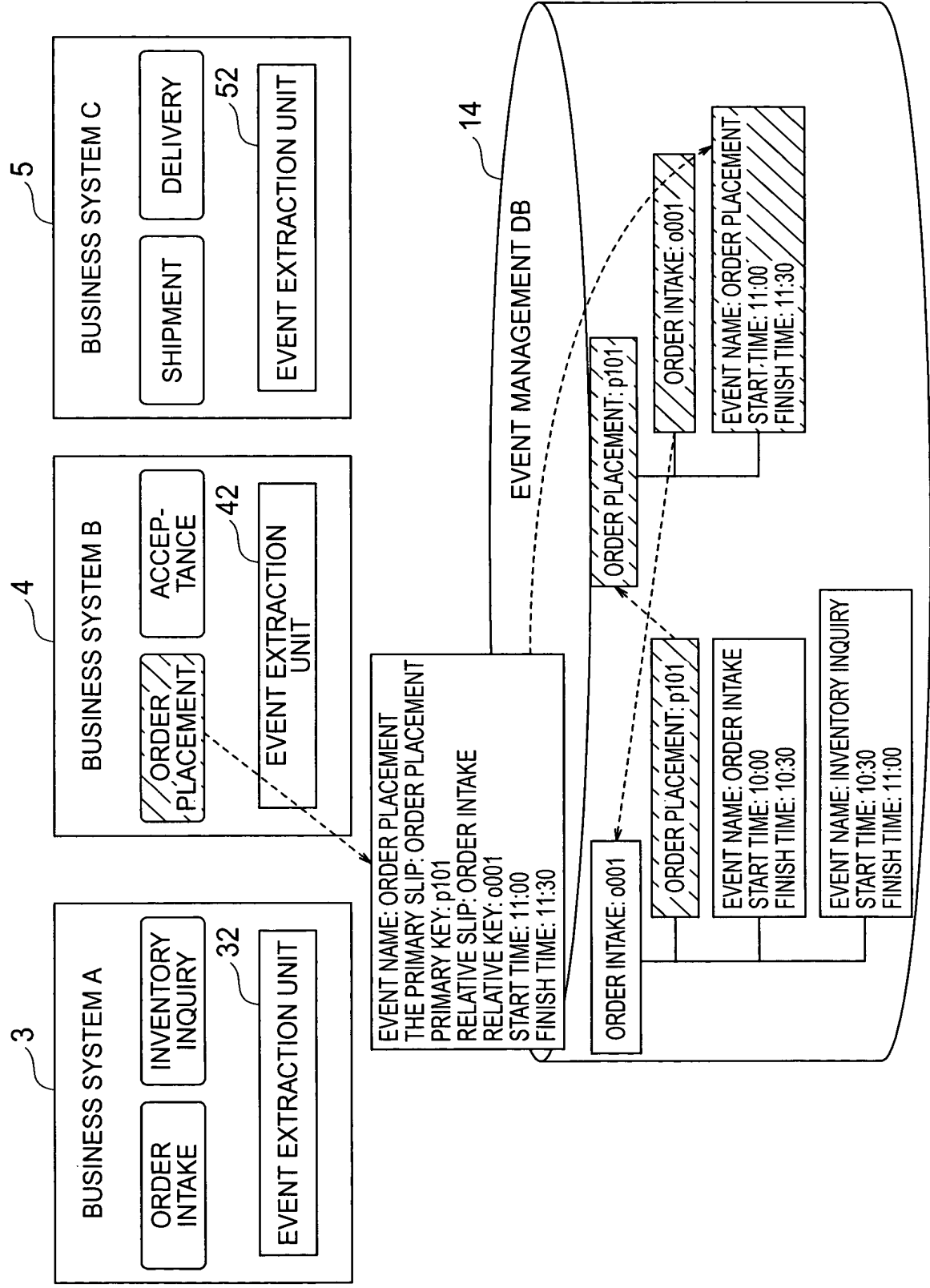
FIG. 22



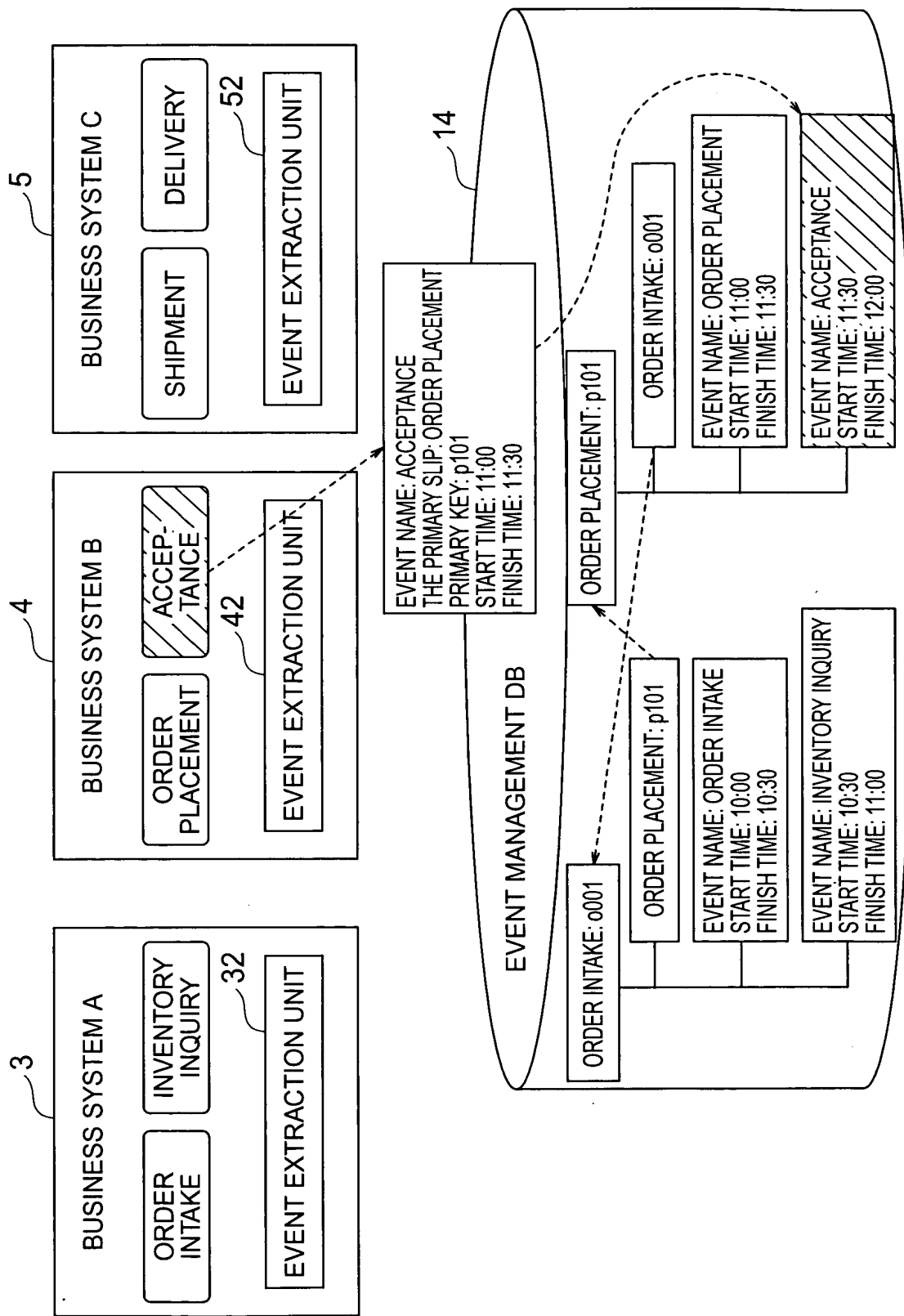
# FIG. 23



# FIG. 24

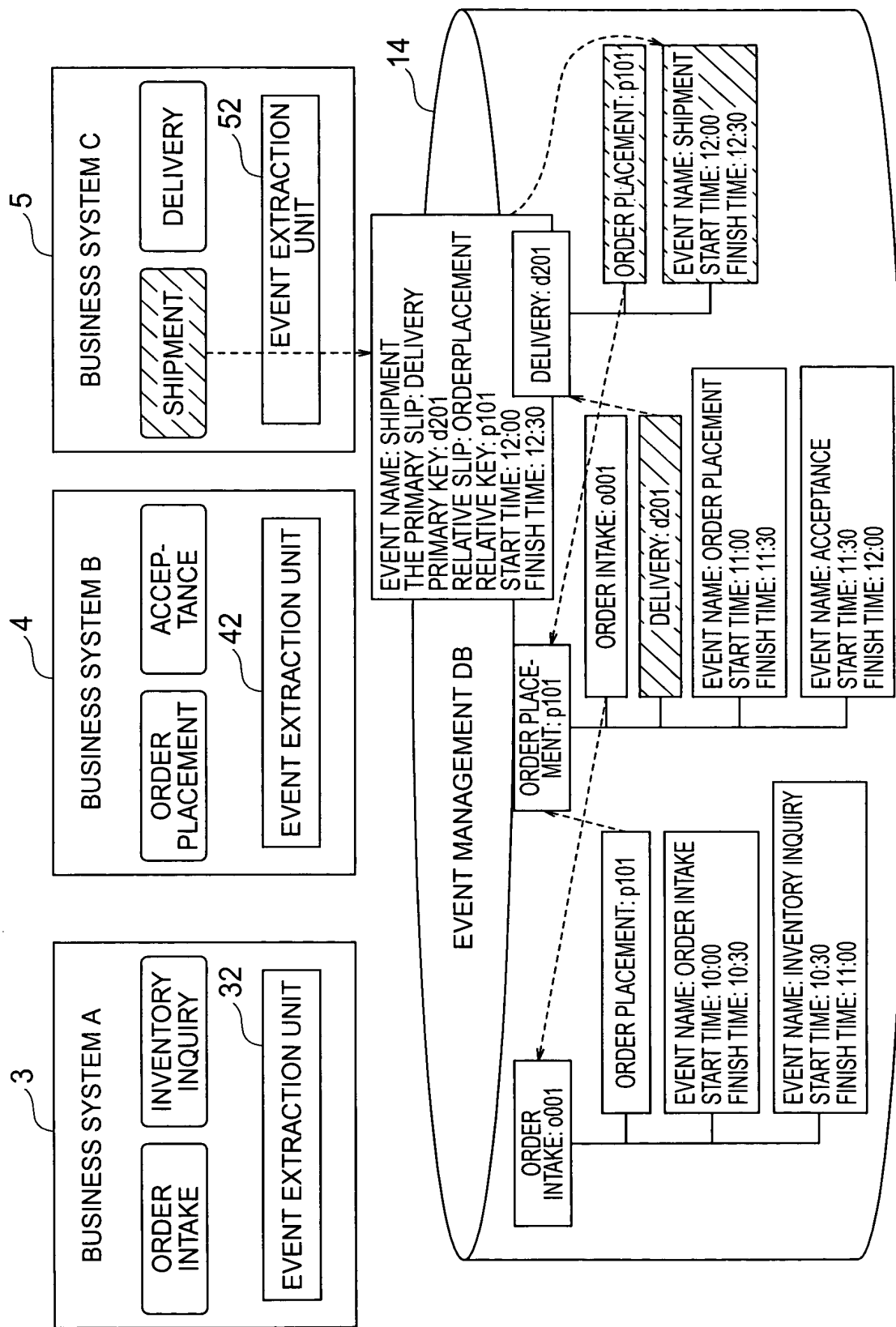


# FIG. 25





# FIG. 26



# FIG. 27

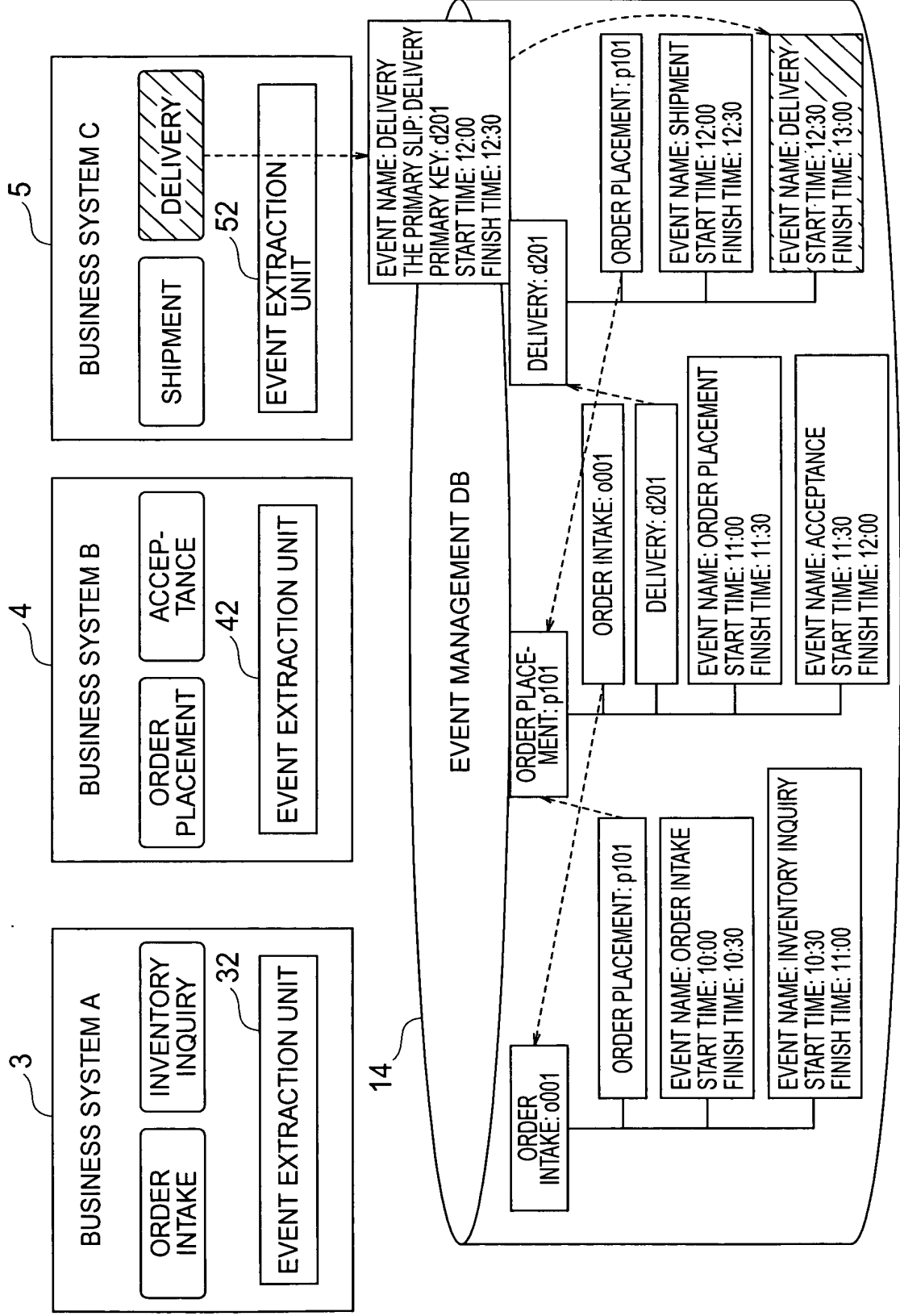


FIG. 28

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INPUT OF RETRIEVAL  
CONDITION

BUSINESS  
PROCESS :

SAMPLE1 ▼

RETRIEVAL  
OBJECT :

DELIVERY ▼

RETRIEVAL  
ITEM 1 :

SLIP NUMBER ▼

VALUE :

RETRIEVAL  
ITEM 2 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL  
ITEM 3 :

SELECT AN ITEM ▼

VALUE :

RETRIEVAL  
RANGE :

2003 ▼

YEAR

1 ▼

MONTH

1 ▼

DAY

~

2003 ▼

YEAR

10 ▼

MONTH

1 ▼

DAY

RESULT DISPLAY

☒ EVENT EXPLORER

☐ DISPLAY BY LIST

RETRIEVAL  
EXECUTION

CLEAR

RETURN

HELP

FIG. 29

INPUT OF RETRIEVAL  
CONDITION

— — BUSINESS PROCESS TRACKING

BUSINESS  
PROCESS :

PRODUCTION AND SALES

RETRIEVAL  
OBJECT :

ORDER INTAKE

RETRIEVAL  
ITEM 1 :

SELECT AN ITEM

VALUE :

RETRIEVAL  
ITEM 2 :

SELECT AN ITEM

VALUE :

RETRIEVAL  
ITEM 3 :

SELECT AN ITEM

VALUE :

RETRIEVAL  
RANGE :

2003

YEAR

1

MONTH

1

DAY

~

2003

YEAR

1

MONTH

1

DAY

RESULT DISPLAY  
METHOD :

○ DISPLAY BY  
EVENT EXPLORER

☒ DISPLAY BY LIST

RETRIEVAL  
EXECUTION

CLEAR

RETURN

HELP

FIG. 30

RETRIEVAL OF SLIP

RETRIEVAL CONDITION

PROCESS: PRODUCT SALES

RETRIEVAL OBJECT: ORDER INTAKE

RETRIEVAL RANGE: JANUARY 1, 2003 TO JANUARY 1, 2003

RETRIEVAL RESULT

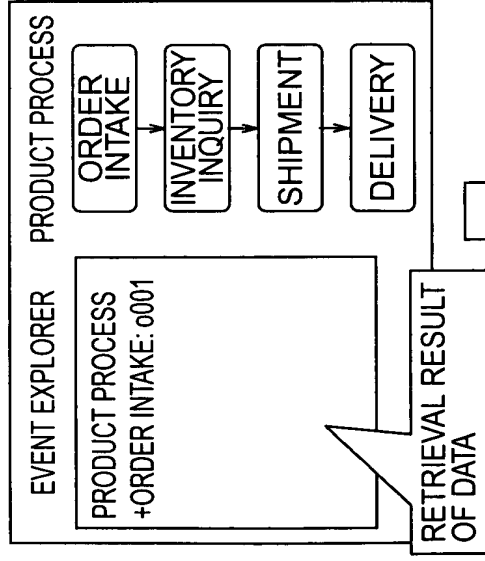
SLIP NUMBER: o002

SLIP NUMBER: o001

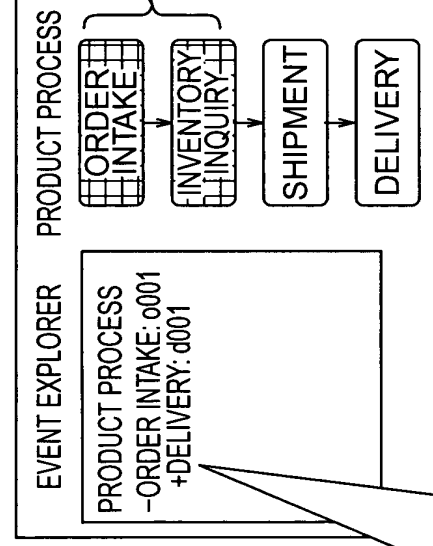
SLIP NUMBER: o011

INPUT OF RETRIEVAL CONDITION

# FIG. 31A



# FIG. 31B



# FIG. 31C

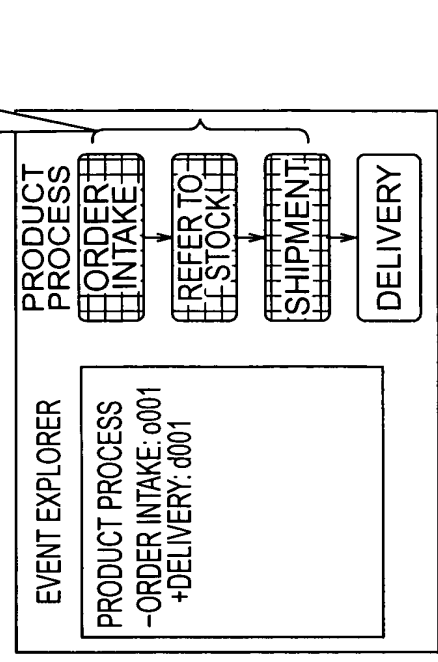


FIG. 32A

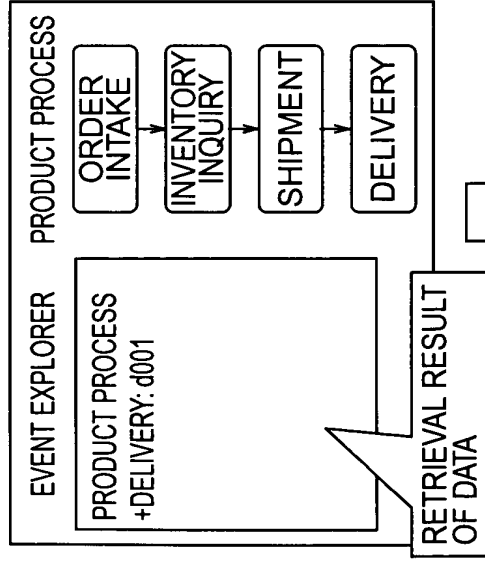


FIG. 32B

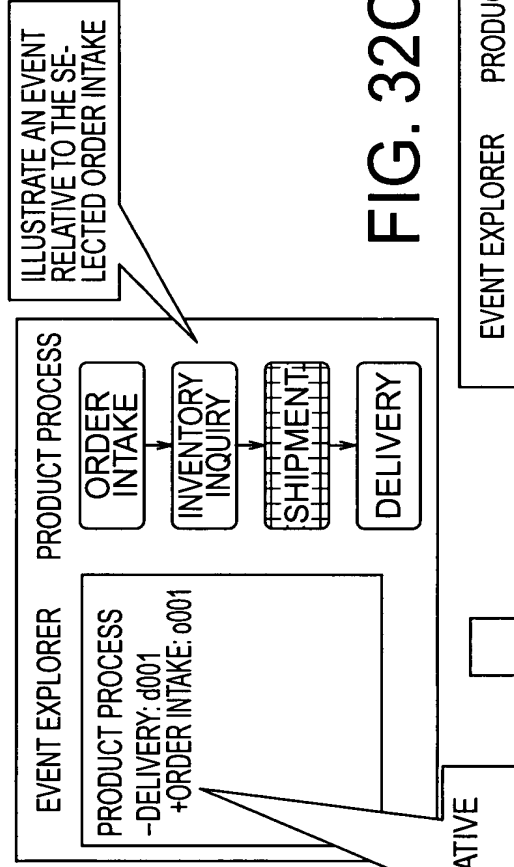
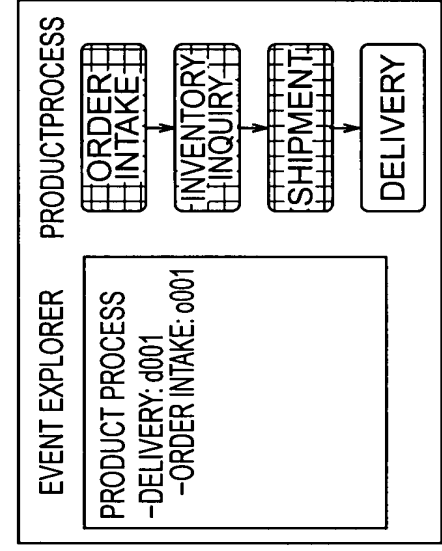


FIG. 32C



☐  $\times$   
☐  $\square$   
☐  $|$

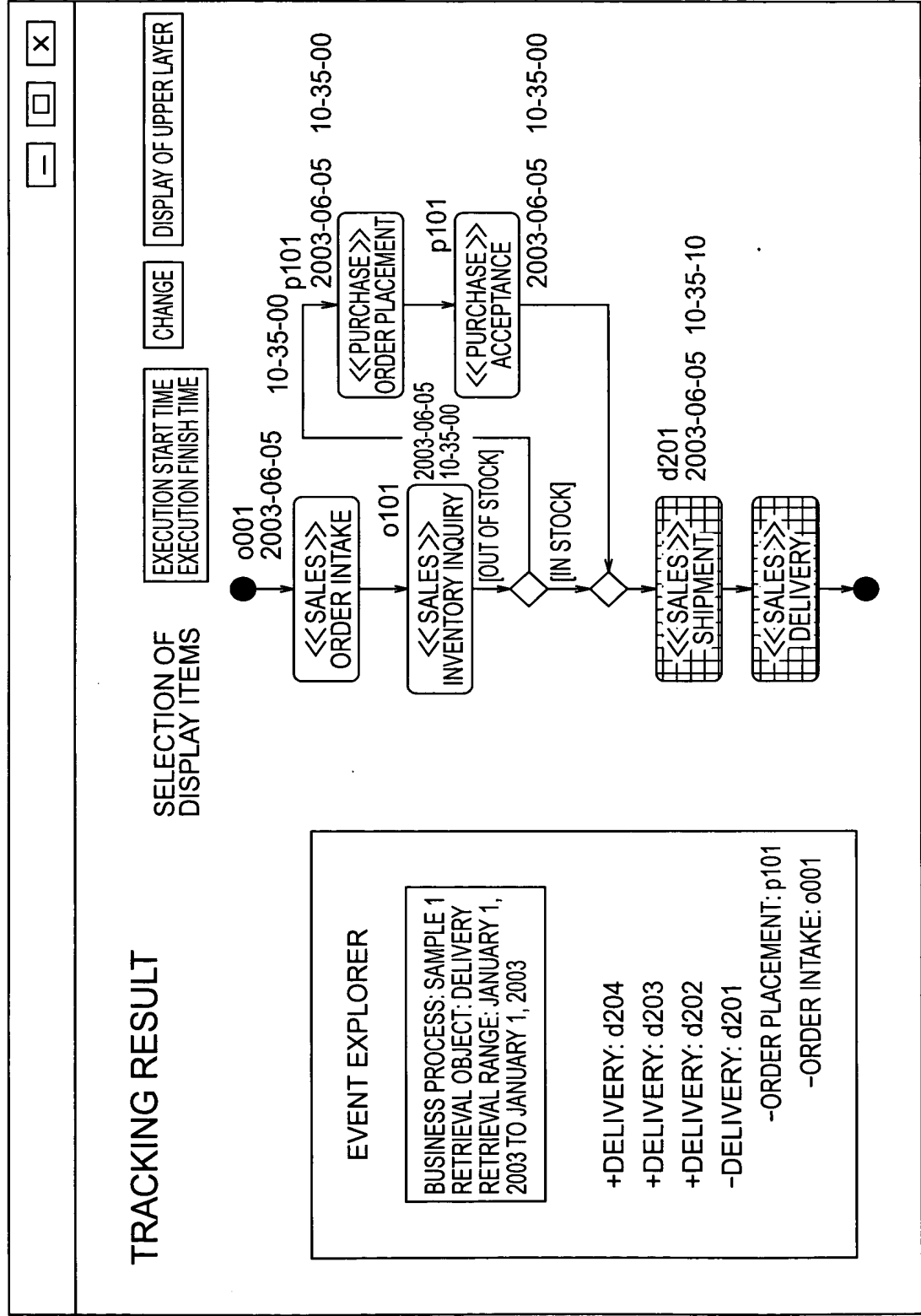




FIG. 34

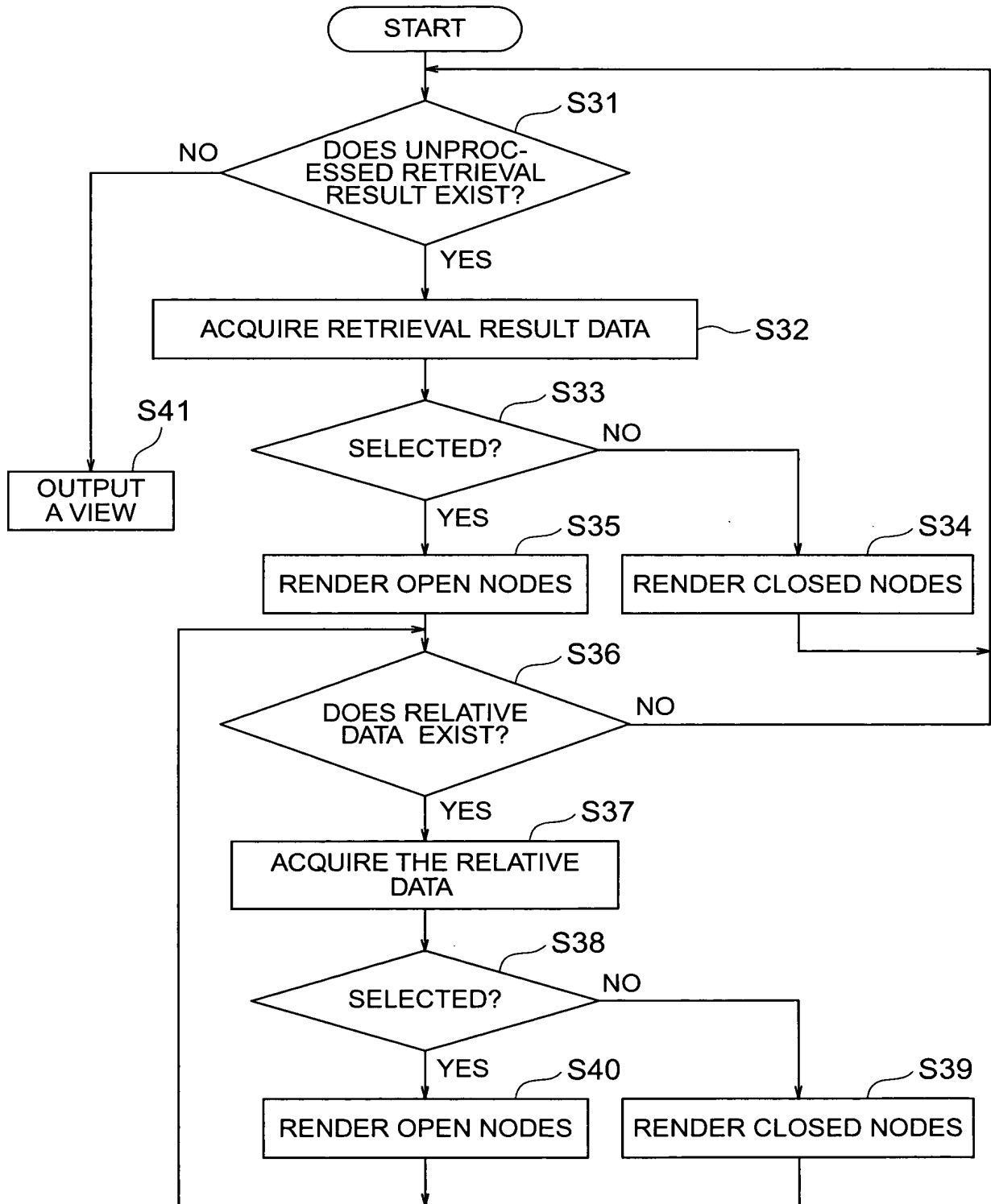
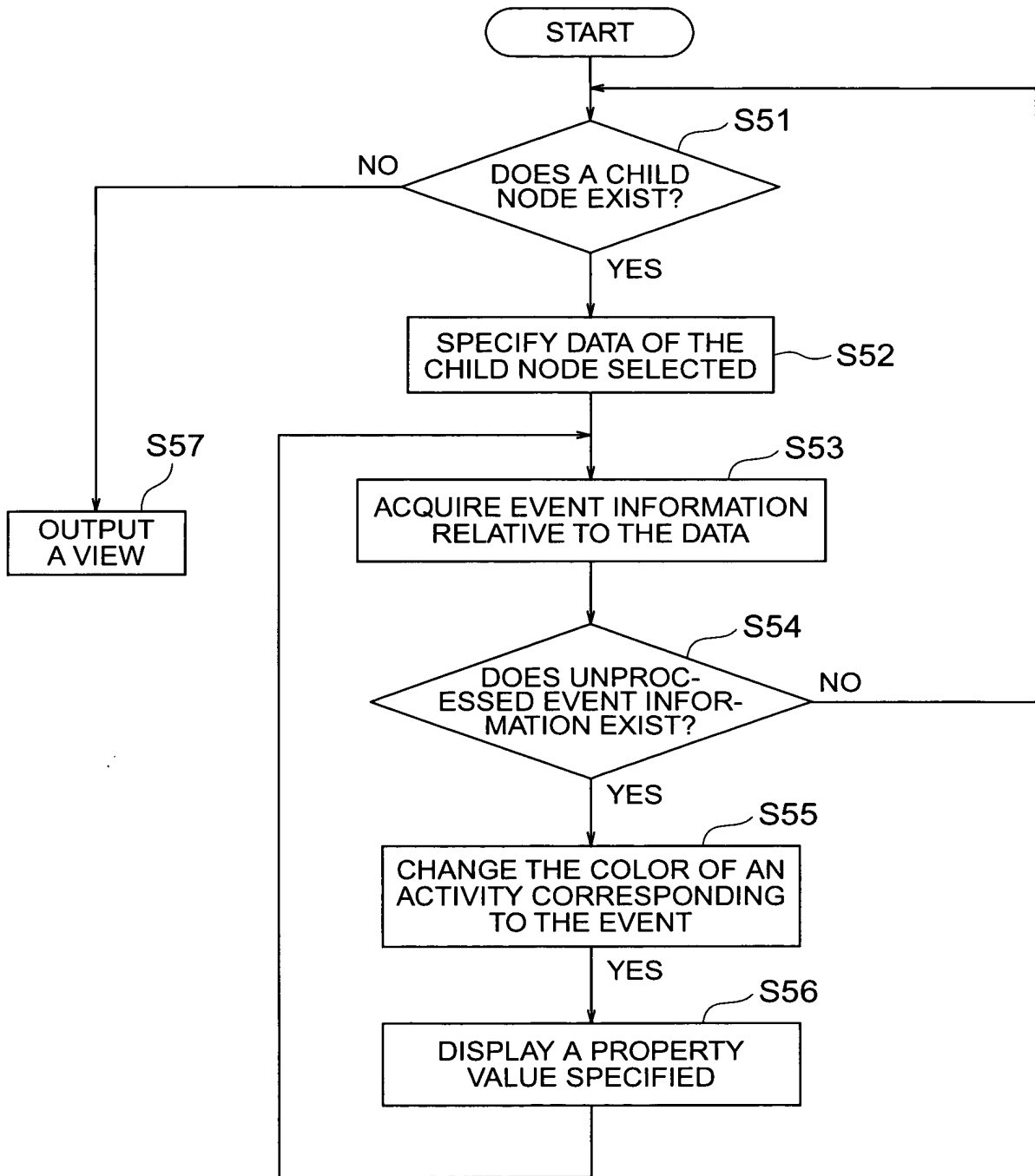


FIG. 35



# FIG. 36

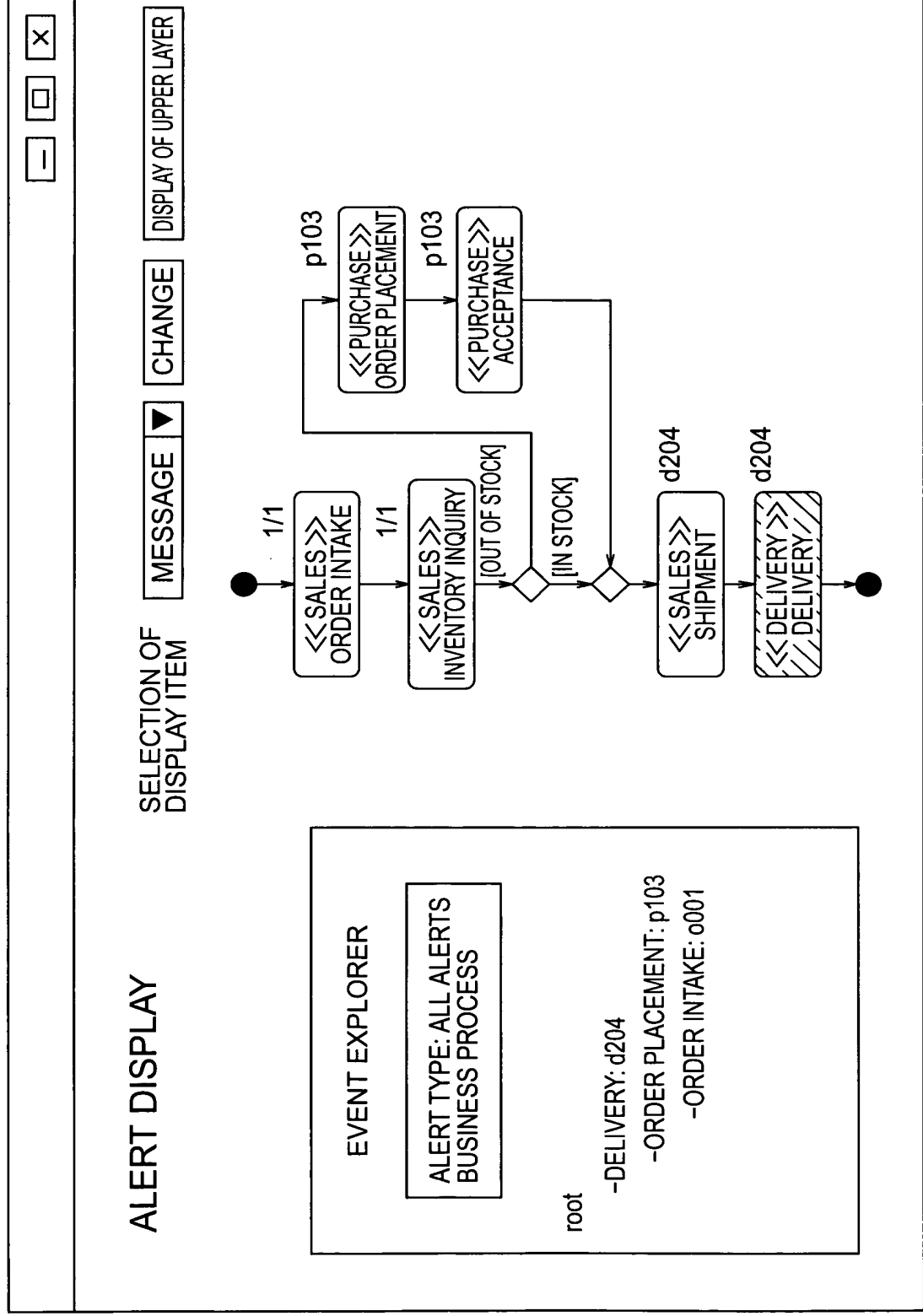


FIG. 37

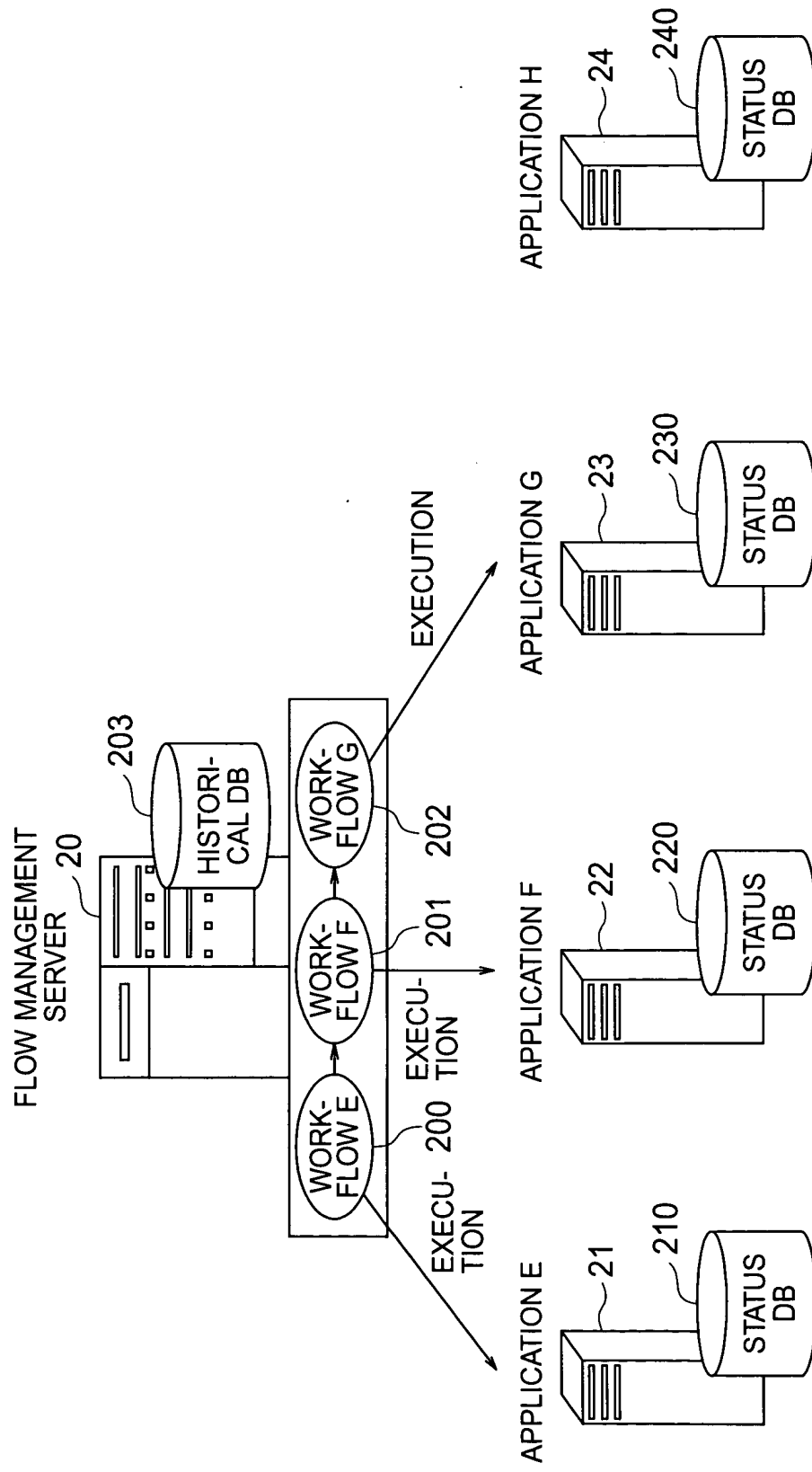


FIG. 38

